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IN THE SPECIFICATION

Replace the paragraph immediately following the section heading
"ABSTRACT OF THE DISCLOSURE" with the following paragraph:

System, methods, and apparatus for verifying microcircuit designs by interleaving between random and formal simulation techniques to identify input traces useful for driving designs under testDUTs into sequences of device states. In a method aspect the invention provides process for beginning random simulation of a sequence of states of a microcircuit design by inputting a sequence of random input vectors to a design under testDUT model in order to obtain a sequence of random simulation states; monitoring a simulation coverage progress metric to determine a preference for switching from random simulation to formal methods of simulating states in the design under testDUT; beginning formal simulation of states in the design under testDUT and monitoring a formal coverage progress metric to determine a preference for resuming random simulation of states of said microcircuit design; and resuming random simulation. Preferably the process of interleaving simulation methods continues until an input vector suitable for driving the design under testDUT model into each of a set of previously-identified goal states has been obtained.